CALS TEST NETWORK

AFCTN Test Report 93-047

AFCTB-ID 92-095

Technical Publication Transfer

Using:

NUWC Division Newport's Data

MIL-M-28001A (SGML)
MIL-R-28002A (Raster)

Quick Short Test Report

29 December 1992

Prepared for

Electronic Systems Center

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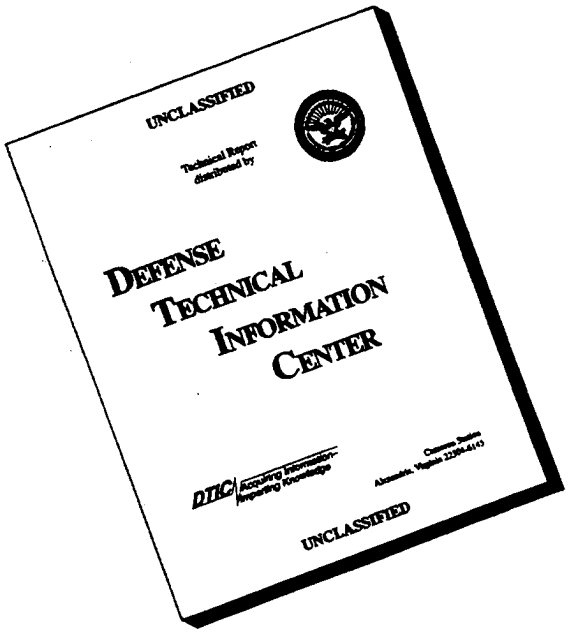

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Quick Short Test Report

29 December 1992

Prepared By
Air Force CALS Test Bed
Wright-Patterson AFB, OH 45433

AFCTB Contact
Gary Lammers
(513) 427-2295

AFCTN Contact
Mel Lammers
(513) 427-2295

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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report. execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze NUWC's interpretation and use of the CALS standards, in transferring technical publication data. NUWC used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 3.5" disks.

2. Test Parameters

Test Plan: AFCTB 92-095

Date of Evaluation: 29 December 1992

Evaluators:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/ENCP
4027 Colonel Glenn Hwy
Suite 300
Dayton, OH 45431-1672

Data Originator:
Gary Weiss
Naval Undersea Warfare Center
Division Newport
Code 8312
Newport, RI 02840-5047
(401) 841-7846

Mary Ann Melosh
Aquidneck Data Company
170 Enterprise Center
Middletown, RI 02842-5271
(401) 847-7260

Data Description: Technical Manual Test
1 Document Declaration file
3 Document Type Definitions (DTD)
1 Text file
61 Raster files

Data Source System:

MIL-STD-1840A

HARDWARE
Tapetool

SOFTWARE
Unknown

Text/Standard Generalized Markup Language (SGML)

HARDWARE

486 PC Compatible

SOFTWARE

Avalanche FastTAG 1.1.3
SoftQuad Author/Editor 2.0
SoftQuad buildRules 2.1
Exoterica XGML Parser 1.1

Raster

HARDWARE

486 PC Compatible

SOFTWARE

KOAPP 1.1
TMS BlackTIE Convert 1.0
ADC EDS-Rast

Evaluation Tools Used:

MIL-STD-1840A

Cheetah Gold 486

AFCTN *Tapetool v1.2.8 DOS*

MIL-M-28001 (SGML)

SUN SparcStation 2

ArborText *ADEPT v4.2.1*

Cheetah Gold 486

Exoterica *XGMLNormalizer v1.2e3.2*

MIL-R-28002 (Raster)

SUN SparcStation 2

ArborText *g42tiff*
AFCTN *calstb.475*
IGES Data Analysis (IDA) *IGESView v3.0*
Island Graphics *IslandPaint v3.0*

Cheetah

AFCTN *validg4*
Inset Systems *HiJaak v2.02*
Corel *Ventura Publisher*

Standards Tested:

MIL-STD-1840A
MIL-M-28001A
MIL-R-28002A

3. 1840A Analysis

3.1 External Packaging

The 3.5" disks arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a commercial 3.5" disk mailer. The exterior of the mailer was marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

Enclosed in the envelope was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 3.5" disk received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 3.5" Disk Format

The files were contained on two 3.5" disks. The contents of both disks were copied to a hard disk in the AFCTB for evaluation. The files were inserted on the 3.5" disk using directory format defined in one of the early drafts of MIL-STD-1840B. The AFCTB would like to receive documents only one sub-directory down instead of the three levels.

The 3.5" disks were run through the AFCTN *Tapetool v1.2.8* utility. No errors were encountered while evaluating the contents of the 3.5" disks.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration file or data file headers. The physical structure of the 3.5" disks meet the CALS MIL-STD-1840A requirements.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on the 3.5" disks.

5. SGML Analysis

The Text file from this document was tested using Exoterica's *XGMLNormalizer* parser. No errors were reported during this operation. The DTD consisted of three files which were parsed without a reported error.

The DTD and Text files were also parsed using ArborText's *ADEPT v4.2.1* with no reported errors.

The DTD and Text files meet the CALS MIL-M-28001A specification.

6. Raster Analysis

All 61 Raster files were checked using the AFCTN *validg4* utility. No errors were reported during this procedure.

A sample of the 61 Raster images (14) were checked using the AFCTN *calstb.475* utility. All of the images could be displayed and no problems were noted. Files R018, R033 and R038 displayed a slight angle which was inserted during the scan operation.

A sample of the Raster files were converted to an IMG format using Inset Systems' *HiJaak*. No problems were reported. The resulting files were imported into Corel's *Ventura Publisher*. The hard copies of three of the files are included in the Appendix of this report.

A sample of the files were converted using Rosetta Technologies' *Prepare*. No problems were noted. The resulting files were imported into *Preview*, displayed and printed.

An attempt was made to read the selected Raster files into IDA's *IGESView*. This program reported that the files were in error. This is a bug that has been reported to IDA.

The selected files were converted into TIFF format using ArborText's *g42tiff* utility. No problems were reported. The resulting files were read into Island Graphics' *Island-Paint*, displayed and printed.

The Raster files meet the CALS MIL-R-28002A specification.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included on the 3.5" disks.

8. Conclusions and Recommendations

In summary, the 3.5" disks from NUWC Division Newport was correct. The 3.5" disks could be read properly using the AFCTN *Tepetool* Software without a reported error. The physical structure of the disks meet the CALS MIL-STD-1840A requirements.

The SGML DTD and Text files parsed without reported error. They meet the CALS MIL-M-2001A specification.

The Raster files were reported without errors and meet the CALS MIL-R-2002A specification.

The files sent to the AFCTB meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:
- MIL-STD-1840A (1987) - Automated Interchange of Technical Information
- ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes for Information Interchange
- ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Tue Dec 29 12:11:18 1992

MIL-STD-1840A File Catalog

File Set Directory: C:\TAPETOOL\SET004

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00256	02048/000000	Extracted
D001R001	Raster	F/00128	02048/000000	Extracted
D001R002	Raster	F/00128	02048/000000	Extracted
D001R003	Raster	F/00128	02048/000000	Extracted
	<<<<< PART OF LOG REMOVE HERE >>>>>			
D001R064	Raster	F/00128	02048/000000	Extracted
D001R065	Raster	F/00128	02048/000000	Extracted

Catalog Process terminated normally.

9.2 Tape File Set Validation Log

```
Air Force CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28002 (1989) - Raster Graphics Representation In Binary
                         Format, Requirements For

Tue Dec 29 12:11:19 1992

MIL-STD-1840A File Set Evaluation Log

File Set: SET004

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: Naval Undersea Warfare Center Division, Newport (NUWC Division Newport),
Code 8312, Middletown, RI  02840
srcdocid: SW850-EA-MMM-010/TOTEM
srcrelid: NONE
chglvl: Second Revision, 19890301
dteisu: 19890301
dstsys: Air Force CALS Test Network (AFCTN)
dstdocid: SW850-EA-MMM-010/TOTEM
dstrelid: NONE
dtetrn: 19921222
dlvacc: NONE
filcnt: G3,R61,T1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Technical Publication
docttl: TOMAHAWK Test Vehicles Description, Operation, Maintenance and Repair Parts Br
(RPB) and Quality Assurance Test and Inspection Procedures
(QATIP) (TOMAHAWK Test Missile (TOTEM) UTM-109-1) (Technical Manual Subset)


Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: SW850-EA-MMM-010/TOTEM
dstdocid: SW850-EA-MMM-010/TOTEM
txtfilid: W
figid: 5-22
srcgph: fig5-22
```

```
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 003392,004400
rdensty: 0400
notes: ID="fig22"

Saving Raster Header File: D001R001.HDR
Saving Raster Data File: D001R001.GR4

                    <<<<< PART OF LOG REMOVED HERE >>>>>

Found file: D001T023
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: SW850-EA-MMM-010/TOTEM
dstdocid: SW850-EA-MMM-010/TOTEM
txtfilid: W
doccls: UNCLASSIFIED
notes: This file is only a subset of the TOTEM technical manual and does not include t
entire document.

Saving Text Header File: D001T023.HDR
Saving Text Data File: D001T023.TXT

Found file: D001G024
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: SW850-EA-MMM-010/TOTEM
dstdocid: SW850-EA-MMM-010/TOTEM
notes: MMM_SUPL.DTD is a supplemental DTD to MMMSSET.DTD which is a document type decl
subset of the MIL-M-38784C DTD.

Saving DTD Header File: D001G024.HDR
Saving DTD Data File: D001G024.DTD

Found file: D001G025
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: SW850-EA-MMM-010/TOTEM
dstdocid: SW850-EA-MMM-010/TOTEM
notes: MMMSSET.DTD is a document type declaration subset of the MIL-M-38784C DTD.  A p
to the public entity identifier % m38784C resides at the end of
this DTD.
```

```
Saving DTD Header File: D001G025.HDR
Saving DTD Data File: D001G025.DTD

Found file: D001G026
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: SW850-EA-MMM-010/TOTEM
dstdocid: SW850-EA-MMM-010/TOTEM
notes: MIL-M-38784C DTD is being sent with this file set via direction of George Elwoo

Saving DTD Header File: D001G026.HDR
Saving DTD Data File: D001G026.DTD

Found file: D001R027
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: SW850-EA-MMM-010/TOTEM
dstdocid: SW850-EA-MMM-010/TOTEM
txtfilid: W
figid: 1-1
srcgph: fig1-1
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 003392,004400
rdensty: 0400
notes: ID="fig1"

Saving Raster Header File: D001R027.HDR
Saving Raster Data File: D001R027.GR4
```

<<<<< *PART OF LOG REMOVED HERE* >>>>>

```
Found file: D001R065
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: SW850-EA-MMM-010/TOTEM
dstdocid: SW850-EA-MMM-010/TOTEM
txtfilid: W
figid: 5-21
srcgph: fig5-21
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 003392,004400
```

```
rdensty: 0400
notes: ID="fig21"

Saving Raster Header File: D001R065.HDR
Saving Raster Data File: D001R065.GR4

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

10. Appendix B - Detailed SGML Analysis

10.1 ArbortText Parser Log

No reported errors.

10.2 Exoterica Parser

No reported errors.

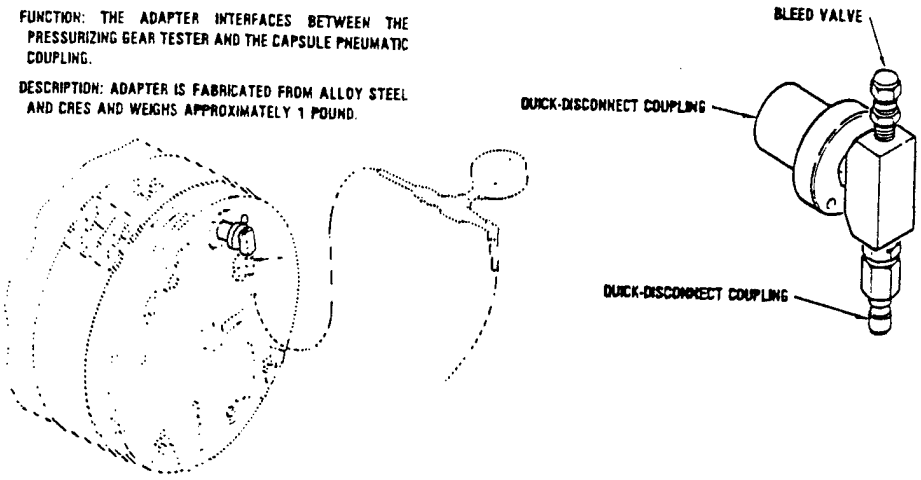
11. Appendix C - Detailed Raster Analysis

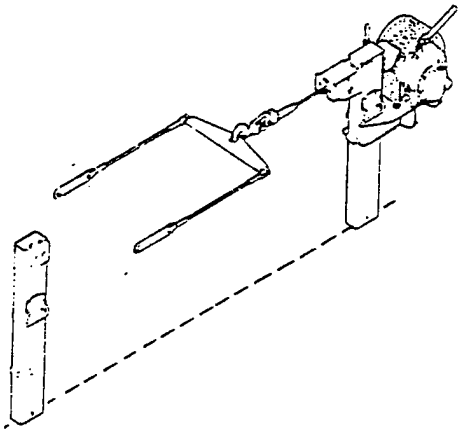
11.1 File D001R018

11.1.1 Output g42tiff/IslandPaint

SW850-EA-MMM-010

Table 1-2. Support Equipment - Continued

EQUIPMENT	ILLUSTRATION
NAME: ADAPTER, CAPSULE PNEUMATIC PART NO.: (81995) 7324001-01 FUNCTION: THE ADAPTER INTERFACES BETWEEN THE PRESSURIZING GEAR TESTER AND THE CAPSULE PNEUMATIC COUPLING. DESCRIPTION: ADAPTER IS FABRICATED FROM ALLOY STEEL AND CRES AND WEIGHS APPROXIMATELY 1 POUND.	

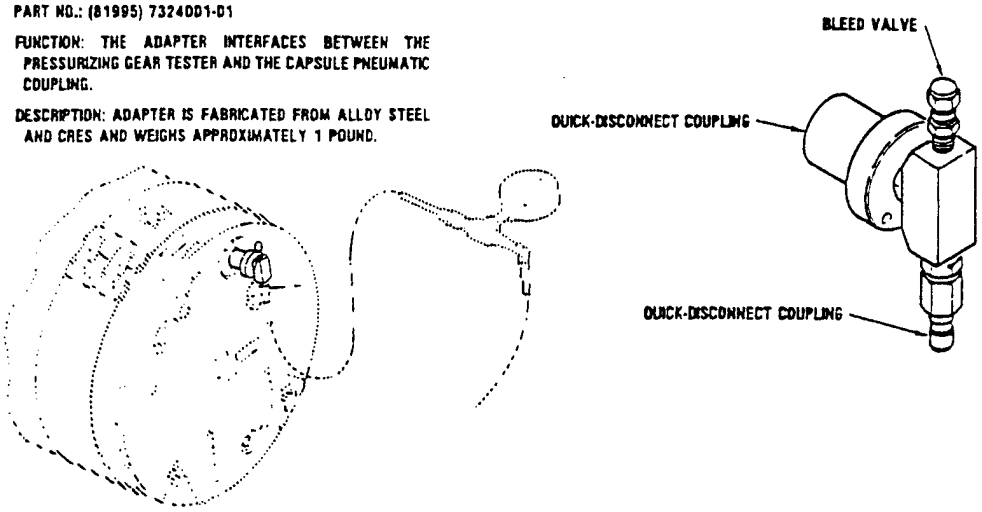
EQUIPMENT	ILLUSTRATION
NAME: WINCH ASSEMBLY, ENCAPSULATION/DECAPSULATION PART NO.: (14170) 76Z3551-45 FUNCTION: USED TO ENCAPSULATE/DECAPSULATE TOTEM. ADAPTER IS USED TO HOLD CAPSULE DURING DECAPSULATION. DESCRIPTION: THE ASSEMBLY CONSISTS OF A PNEUMATIC WINCH, A STAND AND ADAPTER POST. STAND AND POSTS ARE FABRICATED FROM STRUCTURAL STEEL AND CRES. WEIGHT IS APPROXIMATELY 175 POUNDS.	

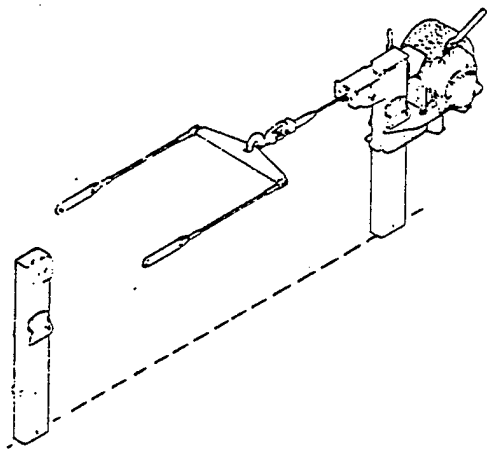
1-40

11.1.2 Output Preview

SW850-EA-MMM-010

Table 1-2. Support Equipment - Continued

EQUIPMENT	ILLUSTRATION
NAME: ADAPTER, CAPSULE PNEUMATIC PART NO.: (81995) 7324001-01 FUNCTION: THE ADAPTER INTERFACES BETWEEN THE PRESSURIZING GEAR TESTER AND THE CAPSULE PNEUMATIC COUPLING. DESCRIPTION: ADAPTER IS FABRICATED FROM ALLOY STEEL AND CRES AND WEIGHS APPROXIMATELY 1 POUND.	

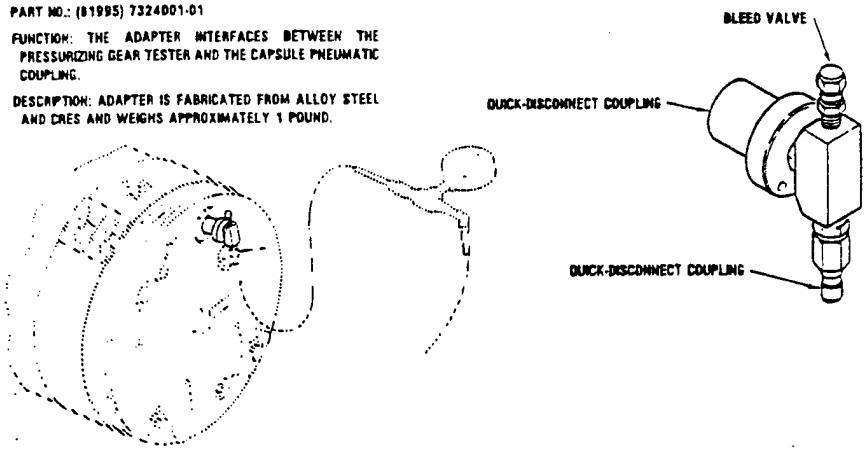
EQUIPMENT	ILLUSTRATION
NAME: WINCH ASSEMBLY, ENCAPSULATION/DECAPSULATION PART NO.: (14170) 76Z3551-45 FUNCTION: USED TO ENCAPSULATE/DECAPSULATE TOTEM. ADAPTER IS USED TO HOLD CAPSULE DURING DECAPSULATION. DESCRIPTION: THE ASSEMBLY CONSISTS OF A PNEUMATIC WINCH, A STAND AND ADAPTER POST. STAND AND POSTS ARE FABRICATED FROM STRUCTURAL STEEL AND CRES. WEIGHT IS APPROXIMATELY 175 POUNDS.	

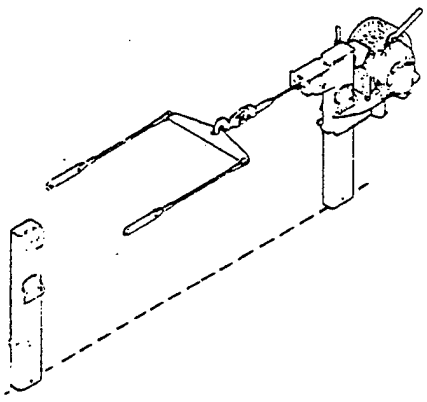
1-40

11.1.3 Output Ventura Publisher

SW850-EA-MMM-010

Table 1-2. Support Equipment - Continued

EQUIPMENT	ILLUSTRATION
NAME: ADAPTER, CAPSULE PNEUMATIC PART NO.: (81995) 7324001-01 FUNCTION: THE ADAPTER INTERFACES BETWEEN THE PRESSURIZING GEAR TESTER AND THE CAPSULE PNEUMATIC COUPLING. DESCRIPTION: ADAPTER IS FABRICATED FROM ALLOY STEEL AND CRES AND WEIGHS APPROXIMATELY 1 POUND.	

EQUIPMENT	ILLUSTRATION
NAME: WINCH ASSEMBLY, ENCAPSULATION/DECAPSULATION PART NO.: (14170) 76Z3551-45 FUNCTION: USED TO ENCAPSULATE/DECAPSULATE TOTEM. ADAPTER IS USED TO HOLD CAPSULE DURING DECAPSULATION. DESCRIPTION: THE ASSEMBLY CONSISTS OF A PNEUMATIC WINCH, A STAND AND ADAPTER POST. STAND AND POSTS ARE FABRICATED FROM STRUCTURAL STEEL AND CRES. WEIGHT IS APPROXIMATELY 175 POUNDS.	

1-40

D001R018

11.2 File D001R038

11.2.1 Output g42tiff/IslandPaint

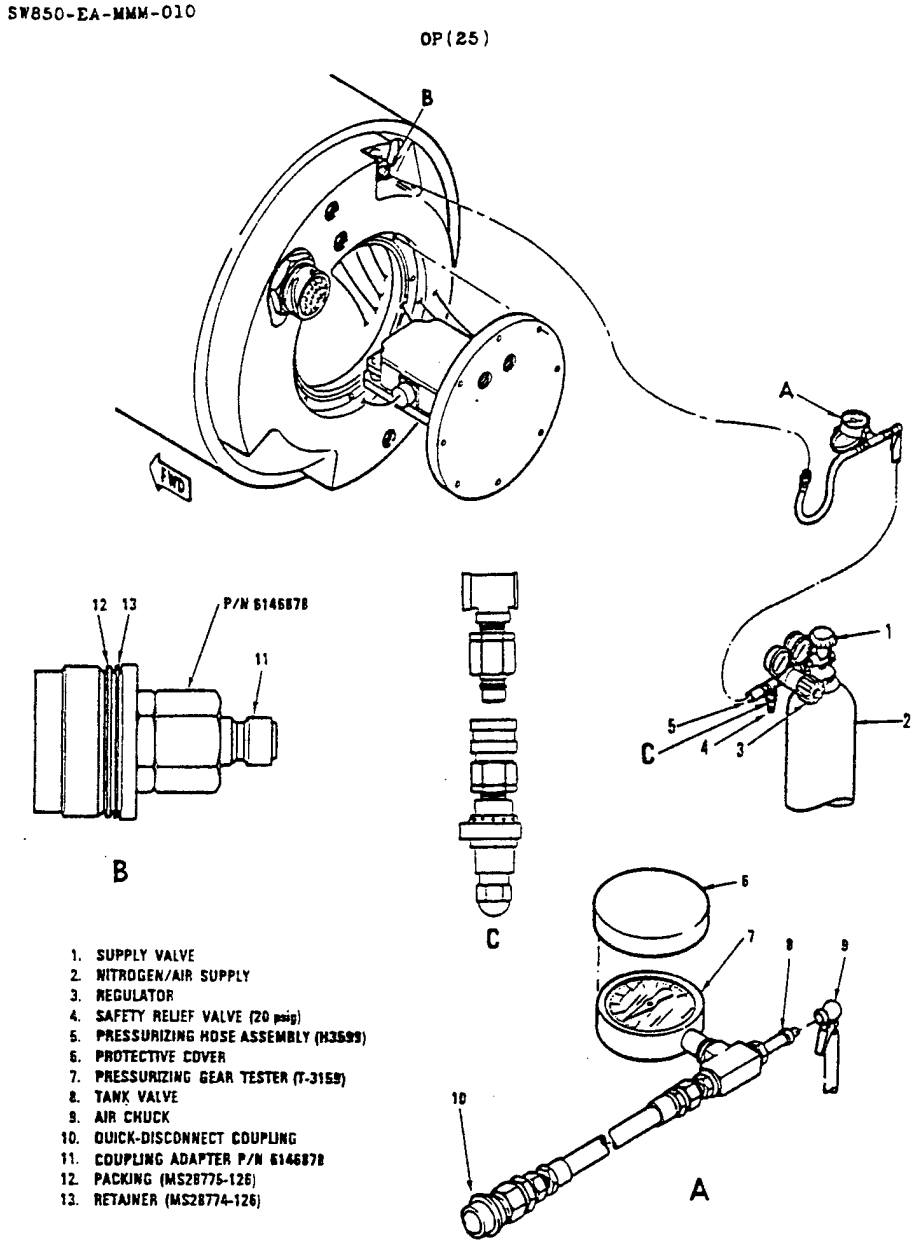


Figure 5-20. Pressure Test Vehicle Relief Valve

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11.2.2 Output Preview

SW850-EA-MMM-010

OP(25)

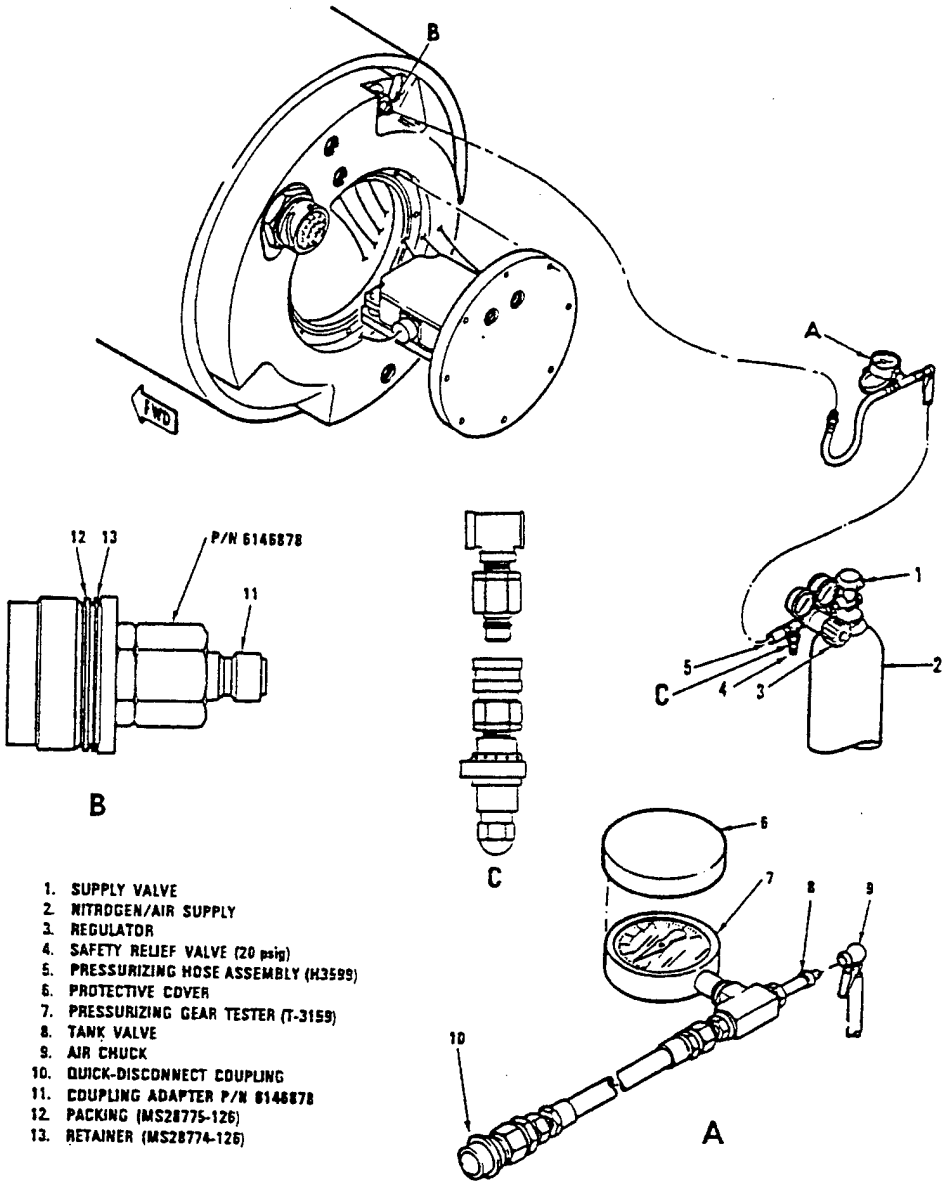

Figure 5-20. Pressure Test Vehicle Relief Valve

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11.2.3 Output Ventura Publisher

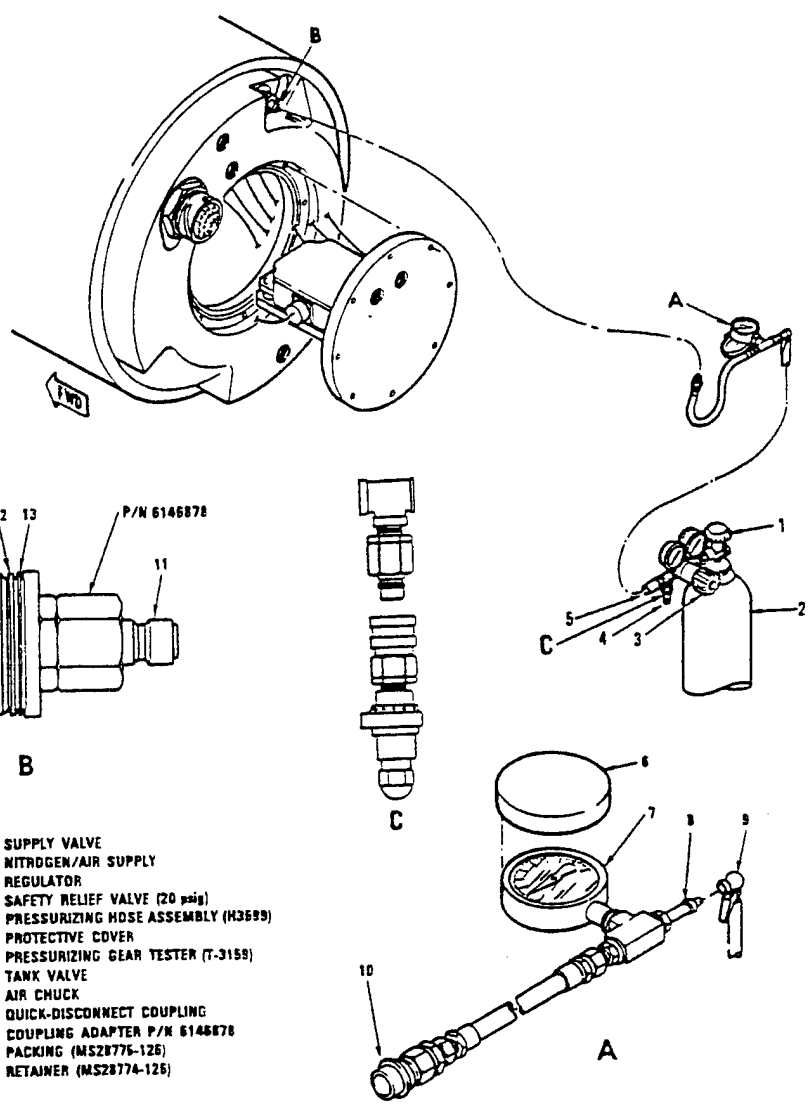

Figure 5-20. Pressure Test Vehicle Relief Valve

5-142

D001R038

11.3 File D001R058

11.3.1 Output g42tiff/IslandPaint

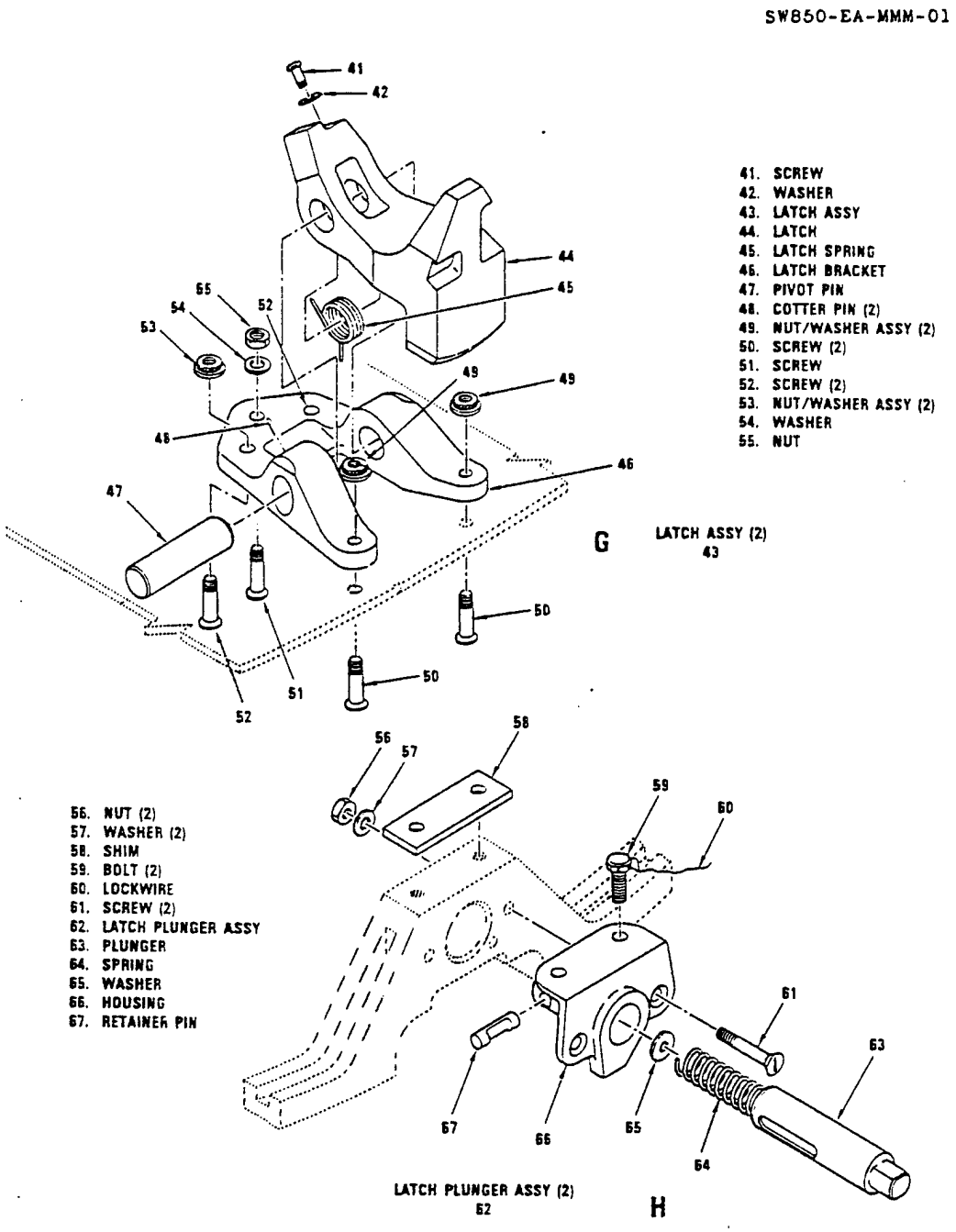

Figure 7-5. TOMAHAWK Capsule Illustrated Parts Breakdown (Sheet 4 of 6)

11.3.2 Output Preview

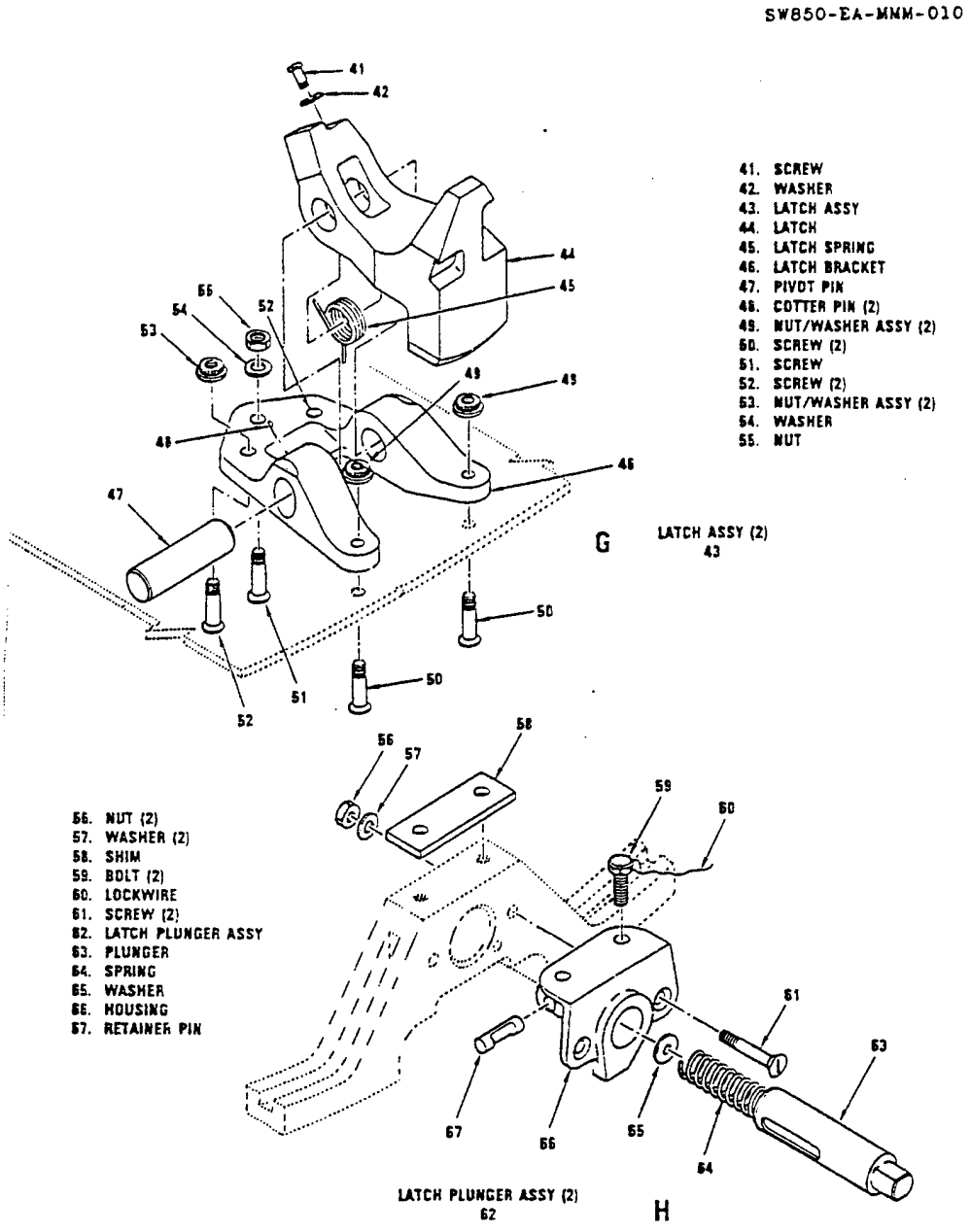

Figure 7-5. TOMAHAWK Capsule Illustrated Parts Breakdown (Sheet 4 of 6)

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11.3.3 Output Ventura Publisher

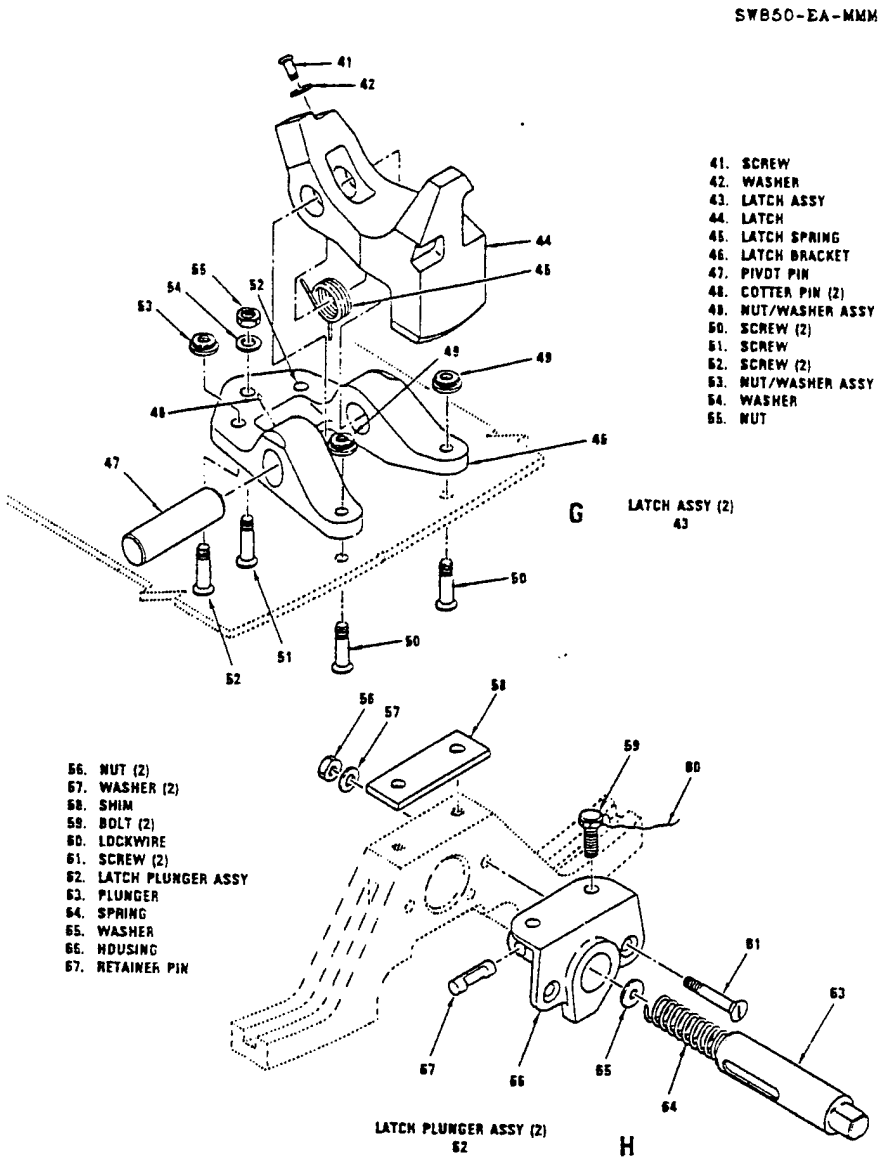

Figure 7-5. TOMAHAWK Capsule Illustrated Parts Breakdown (Sheet 4 of 6)

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D001R058